

Appl. No. 10/017,333  
Amdt. dated June 27, 2003  
Reply to Office action of January 29, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A cleaning system for the condenser of a  
.. refrigeration unit, the system comprising:

a compressor including a motor operating in a normal operating  
mode during a refrigeration cooling cycle,

a condenser,

a cooling fan including a fan blade;

a motor drive system for driving the fan;

a power source supplying power to the cleaning system during the  
refrigeration cooling cycle; and

control means for running the fan motor drive system during the  
refrigeration cooling cycle at a first selected speed in a forward direction to  
direct air toward the condenser for a first predetermined period of time and  
at a second selected speed in a reverse direction to direct air away from the  
condenser for a second predetermined period of time, the first and second  
periods of time being tolled when power is not supplied to the cleaning  
system, the speeds and the time periods being effective to prevent formation  
of lint on the condenser.

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Claim 2 (original): A cleaning system as defined in claim 1, wherein:

the first selected speed is less than the second selected speed.

Claim 3 (original): A cleaning system as defined in claim 1, wherein:

the first predetermined time period is longer than the second predetermined time period.

Claim 4 (currently amended): A cleaning system as defined in claim 2,  
wherein:

al the fan is continuously run at the lower speed and the fan motor drive system reversed several times a day to run at the higher speed in the opposite direction during the refrigeration cooling cycle when power is supplied to the cleaning system.

Claim 5 (currently amended): A cleaning system as defined in claim 1,  
wherein:

the first selected speed is about 1500 rpm and the second selected speed is about 2000 rpm, and the first time period is about 8 hours and the second time period is about 14 minutes.

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Claim 6 (currently amended): A cleaning system as defined in claim 1,  
wherein:

the reversing motor drive system is powered directly off terminals  
associated with the compressor, thereby providing power to the motor drive  
system during the normal operating mode of the compressor.

al  
Claim 7 (currently amended): A cleaning system as defined in claim 1,  
wherein:

the control means includes a timer for monitoring and accumulating  
data representative of compressor running time during the refrigeration cooling  
cycle, the timer causing the motor drive system to drive the fan in the forward or  
reverse direction based upon the duration of compressor running time.

Claim 8 (currently amended): A cleaning system as defined in claim 7,  
wherein:

the first selected speed is about 1500 rpm and the second selected  
speed is about 2000 rpm, the timer causing causes the motor drive system  
to run in the reverse direction for about 14 minutes after every 8 hours of  
compressor running time.

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Claim 9 (original): A cleaning system as defined in claim 1, wherein:

the reversing motor drive system includes a solid state commutated motor.

Claim 10 (original): A cleaning system as defined in claim 9, wherein:

the first selected speed is less than the second selected speed.

Claim 11 (currently amended): A cleaning system as defined in claim 10, wherein:

al the first selected speed is about 1500 rpm and the second selected speed is about 2000 rpm, and the first time period is about 8 hours and the second time interval is about 14 minutes.

Claim 12 (currently amended): A cleaning system as defined in claim 7~~1~~, wherein:

the reversing motor drive system includes a solid state commutated motor, an electromechanical ~~and the timer~~ are electrically connected to terminals of the compressor motor for monitoring and accumulating data representative of compressor running time during the refrigeration cooling

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cycle, an AC to DC converter for processing power supplied by the power source into controlled, stabilized power supplied to the solid state commutated motor, and control circuitry for controlling operation of the converter.

Claims 13 - 15 (withdrawn)

Claim 16 (currently amended): A kit for retrofitting a refrigerator unit of the type comprising a compressor, a condenser and an original condenser fan motor and a fan blade with a condenser cleaning system, the kit comprising:

a replacement reversible condenser fan motor electrically connectable to the fan blade in a same manner as the original condenser fan motor; and

control means electrically connectable to the replacement fan motor for running the replacement motor during a refrigeration cooling cycle at a first selected speed to direct air toward the condenser for a first predetermined period of time, and in a reverse direction of the motor to direct air away from the condenser at a second selected speed for a second predetermined period of time, the speed and the time periods being effective

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to prevent formation of lint, the control means including a timer electrically connectable to terminals of the compressor for monitoring and accumulating data representative of compressor running time during the refrigeration cooling cycle.

Claim 17 (original) A kit as defined in claim 16, wherein:

the reversible motor is a solid state commutated motor.

Claim 18 (withdrawn)

Claim 19 (withdrawn)

Claim 20 (new): A kit as defined in claim 17, wherein the timer is an electromechanical timer.

Claim 21 (new): A kit as defined in claim 17, wherein the control means further includes an AC to DC converter for processing power supplied to the refrigerator unit by a power source into controlled, stabilized power supplied to the solid state commutated motor, and control circuitry for controlling operation of the converter.

Claim 22 (new): A cleaning system for the condenser of a refrigeration unit, the cleaning system comprising:

a power source supplying power to the cleaning system during a refrigeration cooling cycle;

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a thermostatically controlled switching device allowing for supply of power from the power source to the cleaning system during the refrigeration cooling cycle in response to temperature variations in the refrigeration unit;

a compressor including a motor operating in a normal operating mode during the refrigeration cooling cycle ,

a condenser having refrigerant delivered thereto by the compressor,

a cooling fan including a fan blade;

a motor drive system for driving the fan alternately in a forward direction to direct air toward the condenser and in a reverse direction to direct air away from the condenser;

and

a) a control system for monitoring operation of the compressor motor and for running the motor drive system when power is supplied to the cleaning system during the refrigeration cooling cycle alternately in the forward direction at a first speed for a first predetermined period of time and in the reverse direction at a second speed for a second predetermined period of time based upon the duration of compressor running time during the refrigeration cooling cycle, the speeds and the time periods being effective to prevent formation of lint on the condenser.

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Claim 23 (new): The cleaning system as defined in claim 22, wherein the control system includes a timing device for accumulating and storing data representative of compressor running time during the refrigeration cooling cycle.

Claim 24 (new): The cleaning system as defined in claim 23, wherein the control system causes the fan to operate in the forward direction until the accumulated compressor running time reaches the first predetermined time period, the control system causing the fan to operate in the reverse direction after the first predetermined time period is reached, the control system causing the fan to operate in the reverse direction until the accumulated compressor running time reaches the second predetermined time period, the control system causing the fan to operate in the forward direction after the second predetermined time period is reached.

Claim 25 (new): The cleaning system as defined in claim 23, wherein the timing device includes an electromechanical timer.

Claim 26 (new): The cleaning system as defined in claim 22, wherein the motor drive system includes a solid state commutated motor.

Claim 27 (new): The cleaning system as defined in claim 26, wherein the first speed is less than the second speed.



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ca Claim 28 (new): The cleaning system as defined in claim 22, wherein the first predetermined time period is longer than the second predetermined time period.

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